

**REMARKS**

Reconsideration and allowance of the claims is respectfully requested in view of the following amendments and remarks.

**Claim Disposition**

Claims 1 – 26 are pending in the application. Claims 1 – 7, 9 – 15, and 17 – 24 have been rejected. Claims 8, 16, and 25 have been objected to. Claim 2 has been amended to correct the placement of the wording “only on said second surface”. Claim 26 is added to further clarify that which the inventor claims as his invention. No new matter is added. Support for the added claim may readily be found throughout the specification.

**Claim Objections**

Claims 8, 16, and 25 have been objected to as being dependent upon rejected base claims, but would be allowable if rewritten including all the limitations of the base independent claim and any intervening claims.

**Claim Rejections 35 U.S.C. §102(a)**

With respect to Detailed Action Item 1:

Claims 1 – 4, 6, 9 – 12, 14, 17 – 21, and 23 have been rejected under §102(a) as allegedly being anticipated by Cueman U.S. Patent No. 5,059,800 hereinafter referred to as Cueman. Applicants respectfully traverse. The Examiner states that:

“Regarding claim 1, Cueman et al. discloses a radiation detector element assembly (figure 2) comprising:

“A scintillator (element 23) and a photosensor (element 26), said scintillator including a first surface (element 16) proximate to a photosensor (see figure 2) and a second surface (element 12) distal to said first surface and receptive to a radiation beam (see figure 2); and a side portion of the scintillator (element 23) configured to intercept impingement of a radiation beam thereon and reduce a response of said photosensor to said impingement on said side portion. Cueman discloses scintillator elements that are evenly spaced apart with a wide and short end of the scintillator. Inherently, the shape and configuration of the scintillator elements create a side portion (see figure

2, side of scintillator element 23) that is configured to intercept impingement of a radiation beam upon the side portion and reduce a response of the photosensor to the impingement on the side portion."

"Regarding claim 9, Cueman discloses a method of detecting and incident radiation beam comprising: receiving radiation beam incident upon a second surface (element 12) of a scintillator (element 23), said scintillator including a first surface (element 16) proximate to a photosensor (element 26), and a second surface (element 12) distal to the first surface. Cueman discloses scintillator elements that are evenly spaced apart with a wide and short end of the scintillator. Inherently, the shape and configuration of the scintillator elements create a side portion (see figure 2, side of scintillator element 23) that is configured to intercept impingement of a radiation beam upon the side portion and reduce a response of the photosensor to the impingement on the side portion."

"Regarding claim 17, Cueman discloses a radiation detector array (Figure 2), for use in imaging systems, comprising a scintillator array (Figure 1, element 10), disposed in an operable configuration with a photosensor array (Figure 2, elements 18), said scintillator array including a plurality of scintillators (Figure 2, element 23), and said photosensor array including a plurality of photosensors (elements 28); each scintillator of said plurality of scintillators including a first surface (element 16) proximate to a photosensor (element 28) of said plurality of photosensor and a second surface (element 12) distal to said first surface and receptive to a radiation beam (element 14). Cueman discloses a method of detecting and incident radiation beam comprising:

receiving radiation beam incident upon a second surface (element 12) of a scintillator (element 23), said scintillator including a first surface (element 16) proximate to a photosensor (element 26), and a second surface (element 12) distal to the first surface. Cueman discloses scintillator elements that are evenly spaced apart with a wide and short end of the scintillator. Inherently, the shape and configuration of the scintillator elements create a side portion (see figure 2, side of scintillator element 23) that is configured to intercept impingement of a radiation beam upon the side portion and reduce a response of the photosensor to the impingement on the side portion."

"Regarding claim 18, Cueman discloses a means for detecting an incident radiation beam (Figure 2, element 14), comprising: means for receiving a radiation beam incident upon a second surface (element 12) of a scintillator (element 23), said scintillator including a first surface (element 16) proximate to a photosensor and a second surface (element 12) distal to said first surface. Cueman discloses a method of detecting and incident radiation beam comprising:

receiving radiation beam incident upon a second surface (element 12) of a scintillator (element 23), said scintillator including a first surface (element 16) proximate to a photosensor (element 26), and a second surface (element 12) distal to the first surface. Cueman discloses scintillator elements that are

evenly spaced apart with a wide and short end of the scintillator. Inherently, the shape and configuration of the scintillator elements create a side portion (see figure 2, side of scintillator element 23) that is configured to intercept impingement of a radiation beam upon the side portion and reduce a response of the photosensor to the impingement on the side portion."

"Regarding claims 2, 10 and 19, Cueman further discloses that the second surface (element 12) is larger than the first surface (element 16). It is inherent that this configuration will cause part of the radiation beam to impinge upon the side portion and reduce the response of the photosensor."

"Regarding claims 3, 11 and 20, Cueman discloses that the radiation beam is an x-ray beam (column 1, lines 9-12)."

"Regarding claims 4, 12 and 21, Cueman discloses that the side portion includes a flange (Figure 3)."

"Regarding claims 6, 14 and 23, Cueman discloses that the side portion is tapered outward (see figure 2) from the first surface (element 16) to the second surface (element 12)."

Applicants respectfully contend that the explanation in the Office Action mischaracterizes the teachings of Cueman. To anticipate a claim under 35 U.S.C. §102, a single source must contain all of the elements of the claim. Lewmar Marine Inc. v. Barent Inc., 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 484 U.S. 1007 (1988). Moreover, the single source must disclose all of the claimed elements "arranged as in the claim." (emphasis added) Structural Rubber Prods. Co. v. Park Rubber Co., 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the ...claim." (emphasis added) Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. Titanium Metals Corp. v. Banner, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

With regard to Claim 1, 9, 17, and 18 Applicants respectfully contend that Cueman does not teach or disclose each element of the invention "arranged as in the claim". Specifically, Cueman does not teach or disclose, "a side portion of said scintillator configured to intercept impingement of a radiation beam thereon and reduce a response of said photo sensor to said impingement on said side portion." To support the rejection the Examiner suggests that Cueman includes a side portion of the scintillator (element 23)

configured to intercept impingement of a radiation beam thereon and reduce a response of said photosensor to said impingement on said side portion. Inherently, the shape and configuration of the scintillator elements create a side portion (see figure 2, side of scintillator element 23) that is configured to intercept impingement of a radiation beam upon the side portion and reduce a response of the photosensor to the impingement on the side portion." Applicants respectfully suggest that the Examiner is mischaracterizing the teachings of the cited reference and mischaracterizing the claimed invention.

Applicants agree that Cueman discloses scintillator elements that are evenly spaced apart with a wide and short end of the scintillator. However, Applicants disagree with the Examiner's assertion that "inherently, the shape and configuration of the scintillator elements create a side portion (see figure 2, side of scintillator element 23) that is configured to intercept impingement of a radiation beam upon the side portion and reduce a response of the photosensor to the impingement on the side portion". In fact, the teachings of Cueman are exactly the opposite. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present (emphasis added) in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F. 3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). In order to support an anticipation rejection based on inherency, an Examiner must provide factual and technical grounds establishing that the inherent feature necessarily flows from the teachings of the prior art.(Emphasis added) *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int. 1990); *In re Oelrich*, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981) (holding that inherency must flow as a necessary conclusion from the prior art, not simply a possible one). The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed.Cir. 1993).

Applicants submit that the Examiner has not made a *prima facie* case of anticipation of the claims based on inherency. The Examiner has not shown that a side portion of the scintillator 23 of Cueman is "necessarily" configured to "intercept impingement of a radiation beam upon the side portion and reduce a response of the photosensor to the impingement on the side portion". Furthermore, the Examiner has not shown technical and factual grounds for establishing that a side portion of the scintillator 23 of Cueman is *inherently* "configured to intercept impingement of a radiation beam upon the side portion and reduce a response of

the photosensor to the impingement on the side portion". In other words, the Examiner has not shown that the side portion of the scintillator must be configured to satisfy Applicant's claims. Cueman includes no teaching what so ever about the side portion of the scintillator 23 other than that the wide grooves 22 and narrow grooves 20 are sized to permit areas 28 in between regions 26 that can comprise amplifiers, connections, etc. In fact, Cueman specifically teaches that the radiation will not impinge on the side portions because Cueman fills the grooves 20 and 22 with reflecting means 24. See Col. 2, line 67 – Col. 3 line 57). Therefore, because Cueman does not disclose or teach an element of the invention it cannot anticipate the Applicant's claims. Thus, Claims 1, 9, 17, and 18 are allowable, the rejections are improper, and they should be withdrawn.

In view of the above discussion, Claims 2 - 7, 10 – 15, and 19 - 24 depend from Claims 1, 9, and 18 respectively, whether directly or indirectly, and include all of the corresponding limitations thereof. Claims 1, 9, and 18 are not taught by Cueman, therefore, Claims 2 - 7, 10 – 15, and 19 - 24, cannot be taught by Cueman either. Thus, Claims 2 - 7, 10 – 15, and 19 - 24 are allowable, the rejections are improper and they should be withdrawn.

**Claim Rejections - 35 USC § 103**

Claims 5, 7, 13, 15, 22 and 24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Cueman, U.S. Patent 5,059,800, hereinafter referred to as Cueman. Applicants respectfully traverse The Examiner states:

"Regarding claims 5,13 and 22, Cueman discloses the limitations set forth in the claim 4, 12 and 21 respectively. Further, it would have been obvious to one having ordinary skill in the art to have provided that the flange would be configured to a thickness and depth to intercept the radiation beam for a selected focal spot because such scintillation specifications are chosen for properties such as stopping power or resolution. Therefore, since one of ordinary skill in the art would configure the thickness and depth to intercept the given radiation beam in order to manipulate certain properties (stopping power and resolution) a given focal spot motion will also be determined."

"Regarding claims 7, 15 and 24, Cueman discloses the limitations set forth in claims 1, 9, and 18, respectively. Further Cueman discloses a tapered scintillator (figure 3) with a stepwise cut from the second surface to the first surface (Figure 3). It is obvious to one of ordinary skill in the art that the radiation beam does not impinge on another side portion in the vicinity of the photosensor (figure 2, element 18) for a given focal spot motion. Since

Cueman does not specify a range of focal spot motion, the stepwise configuration of the scintillation element in figure 3, inherently has a focal spot that causes the flange portion to not impinge on another side portion in the vicinity of the photosensor."

Applicants respectfully contend that explanation in the Office Action mischaracterizes the teachings of Cueman and that the cited references do not teach or disclose each element of the invention. For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a *prima facie* case of obviousness. *In re Fine*, U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). The Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

With regard to Claims 5, 13, and 22, Applicant respectfully contends that Cueman does not teach or disclose each element of the invention. Specifically, as stated above for Claim 1, Cueman does not teach or disclose, "a side portion of said scintillator configured to intercept impingement of a radiation beam thereon and reduce a response of said photo sensor to said impingement on said side portion." Nor does Cueman teach or disclose "wherein said flange is configured with a thickness and depth to intercept said radiation beam for a selected focal spot motion." Furthermore, the Examiner suggests that "it would have been obvious to one having ordinary skill in the art to have provided that the flange would be configured to a thickness and depth to intercept the radiation beam for a selected focal spot because such scintillation specifications are chosen for properties such as stopping power or resolution." Applicant respectfully disagrees and strongly contends that the Examiner is mischaracterizing the claimed invention. The configuration of the thickness and depth of the flange have absolutely no bearing on the stopping power or resolution of the scintillator. Clearly then, this makes the suggestion of obviousness erroneous. Furthermore, there is no teaching in Cueman what so ever regarding configuring the grooves 20 and 22 such that "said flange is configured with a thickness and depth to intercept said radiation beam for a selected focal spot motion" as the Applicant has claimed. Therefore, because Cueman does not teach

disclose or teach an element of the invention it cannot render Applicant's claims unpatentable. Thus, Claims 5, 13, and 22 are allowable, the rejections are improper, and they should be withdrawn.

Alternatively, with regard to Claims 5, 13 and 22, Applicant respectfully maintains that the Examiner has used an improper standard in arriving at the rejection of the above claims under section 103, which fails to consider the totality of Applicant's invention and to the totality of the cited reference. More specifically, the Examiner mischaracterized the claimed invention and has ignored the portions of Cueman that specifically teach away from the claimed invention. In doing so, the Examiner has failed to consider the teachings of the reference or Applicant's invention as a whole in contravention of §103.

In particular, the Examiner has provided an improper and inaccurate explanation for the suggestion of obviousness. The configuration of the thickness and depth of the flange have absolutely no bearing on the stopping power or resolution of the scintillator. Nor is there any teaching in Cueman what so ever regarding configuring the grooves 20 and 22 such that "said flange is configured with a thickness and depth to intercept said radiation beam for a selected focal spot motion" as the Applicant has claimed. Furthermore, Cueman includes no teaching what so ever about the side portion of the scintillator 23 other than that the wide grooves 22 and narrow grooves 20 are sized to permit areas 28 in between regions 26 that can comprise amplifiers, connections, etc. In fact, Cueman specifically teaches that the radiation will not impinge on the side portions because Cueman fills the grooves 20 and 22 with reflecting means 24. Clearly then, it would not be obvious to one skilled in the art to modify the teachings of Cueman such that the flange would be configured to a thickness and depth to intercept the radiation beam for a selected focal spot because Cueman employed the reflecting means 24 on the sides of the scintillator." Therefore, the Examiner has not made a *prima facie* case for obviousness and Claims 5, 13, and 22 may not be rendered unpatentable as suggested. Therefore, Claims 5, 13, and 22 are allowable, the rejections are improper, and they should be withdrawn.

With regard to Claims 7, 15 and 24, Applicant respectfully contends that Cueman does not teach or disclose each element of the invention. Specifically, as stated above for Claim 1, Cueman does not teach or disclose, "a side portion of said scintillator configured to intercept impingement of a radiation beam thereon and reduce a response of said photo

**sensor to said impingement on said side portion.”** Nor does Cueman teach or disclose “**said scintillator is tapered outwards using step cutting from said second surface to said first surface such that said radiation beam does not impinge on another side portion, in the vicinity of said photo sensor, for a selected range of focal spot motion.”** Furthermore, the Examiner suggests that “**It is obvious to one of ordinary skill in the art that the radiation beam does not impinge on another side portion in the vicinity of the photosensor (figure 2, element 18) for a given focal spot motion.** Since Cueman does not specify a range of focal spot motion, the stepwise configuration of the scintillation element in figure 3, inherently has a focal spot that causes the flange portion to not impinge on another side portion in the vicinity of the photosensor.” Applicant respectfully disagrees. Recall that, in order to support a rejection based on inherency, an Examiner must provide factual and technical grounds **establishing that the inherent feature necessarily flows from the teachings of the prior art**. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency. Applicants respectfully contend that just because Cueman has disclosed a similar configuration for the scintillator, does not mean that the claimed features are inherent and that Cueman can render the Applicant’s claims unpatentable. In fact, by the Examiner’s own statement that Cueman lacks disclosure regarding focal spot motion, thus, it *may* be the case that the disclosure of Cueman includes a flange such that said radiation beam does not impinge on another side portion, in the vicinity of said photo sensor, for a selected range of focal spot motion. However, it is readily apparent that this is not necessarily the case, nor can it be found that such teaching necessarily flows from the teachings of Cueman. The Examiner has not established the inherency of the claimed element in the prior art. Therefore, because Cueman does not teach disclose or teach an element of the invention it cannot render Applicant’s claims unpatentable. Thus, Claims 7, 15 and 24 are allowable, the rejections are improper, and they should be withdrawn.

The arguments and amendments presented herein are made for the purposes of better defining the invention, rather than to overcome the rejections for patentability. The claims have not been amended to overcome the prior art and therefore, no presumption should attach that either the claims have been narrowed over those earlier presented, or that subject matter or equivalents thereof to which the Applicant is entitled has been surrendered. Allowance of the claims is respectfully requested in view of the above remarks. Moreover, no amendments

as presented alter the scope of the claimed invention and therefore cannot necessitate a new grounds rejection.

It is believed that the foregoing remarks are fully responsive to the Office Action and that the claims herein should be allowable to the Applicant. In the event the Examiner has any queries regarding the instantly submitted response, the undersigned respectfully requests the courtesy of a telephone conference to discuss any matters in need of attention.

If there are additional charges with respect to this matter or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully Submitted,

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